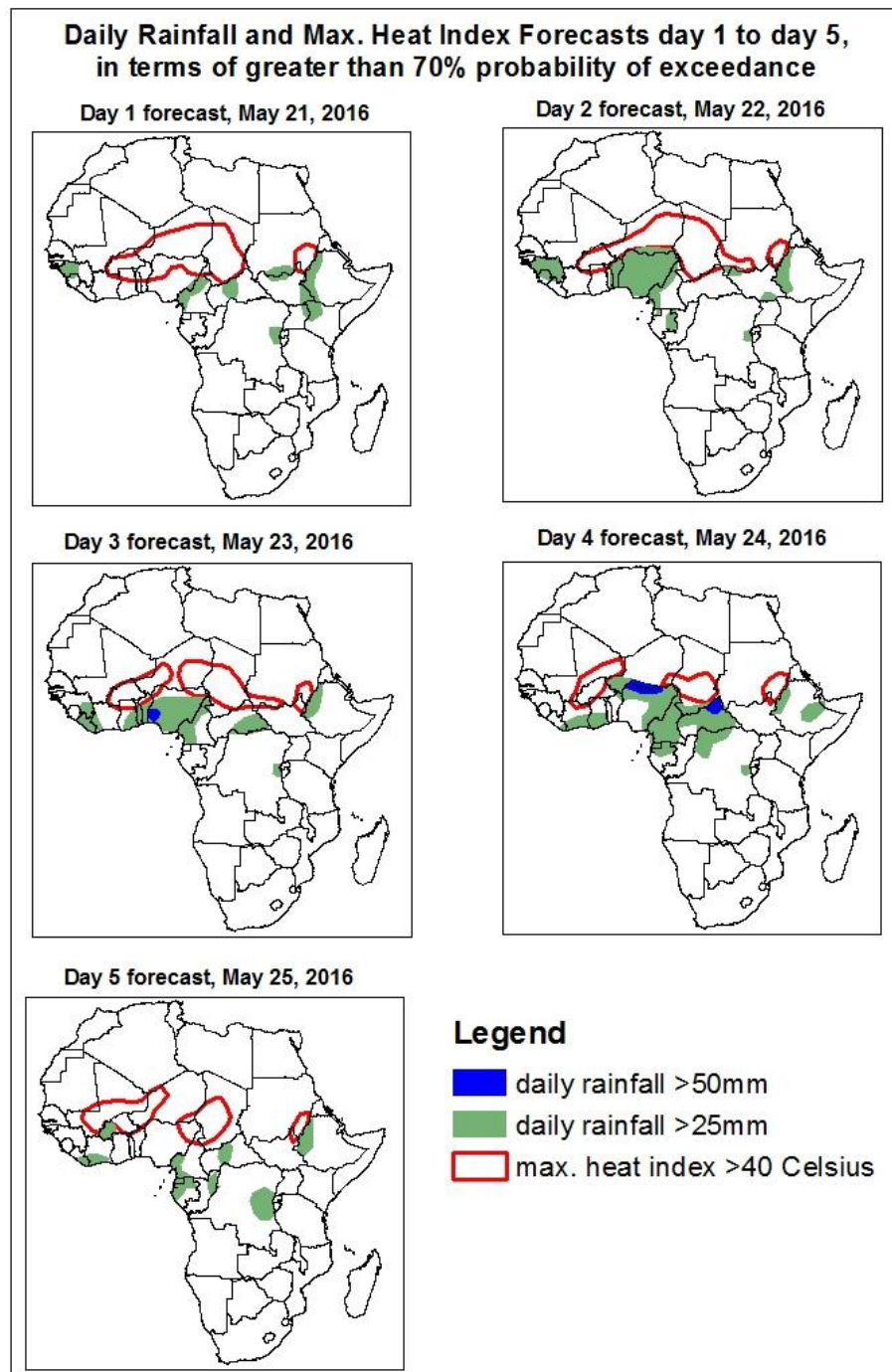


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

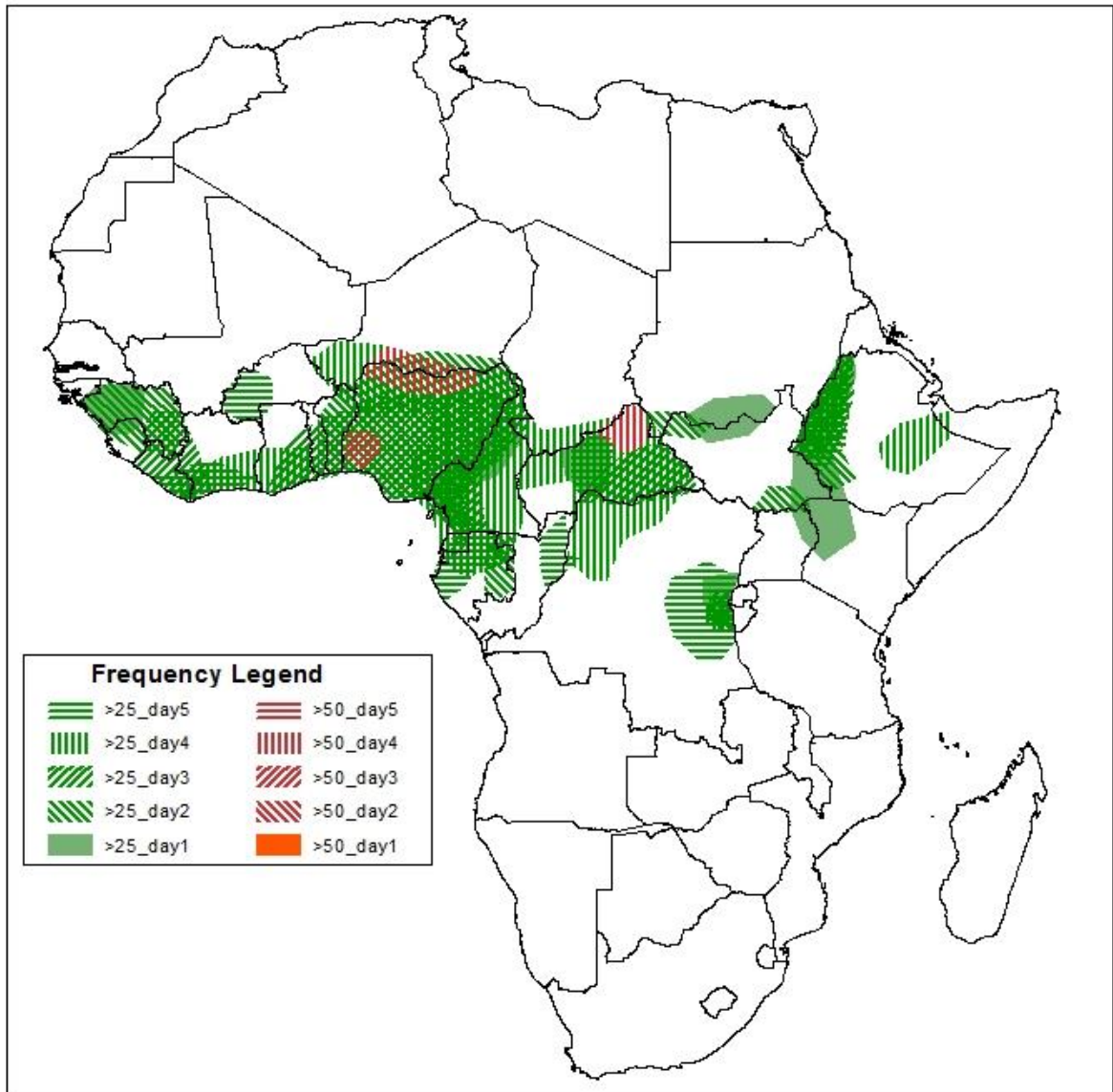
1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on May 20, 2016)

1.1. Daily Rainfall and Maximum Heat Index Forecasts (valid: May 21– May 25, 2016)

The forecasts are expressed in terms of high probability of precipitation (POP) and high probability of maximum heat index, based on the NCEP/GFS, ECMWF and the NCEP Global Ensemble Forecasts System (GEFS) and expert assessment.



Five Days Rainfall Forecast Summary May 21 - May 24, 2016

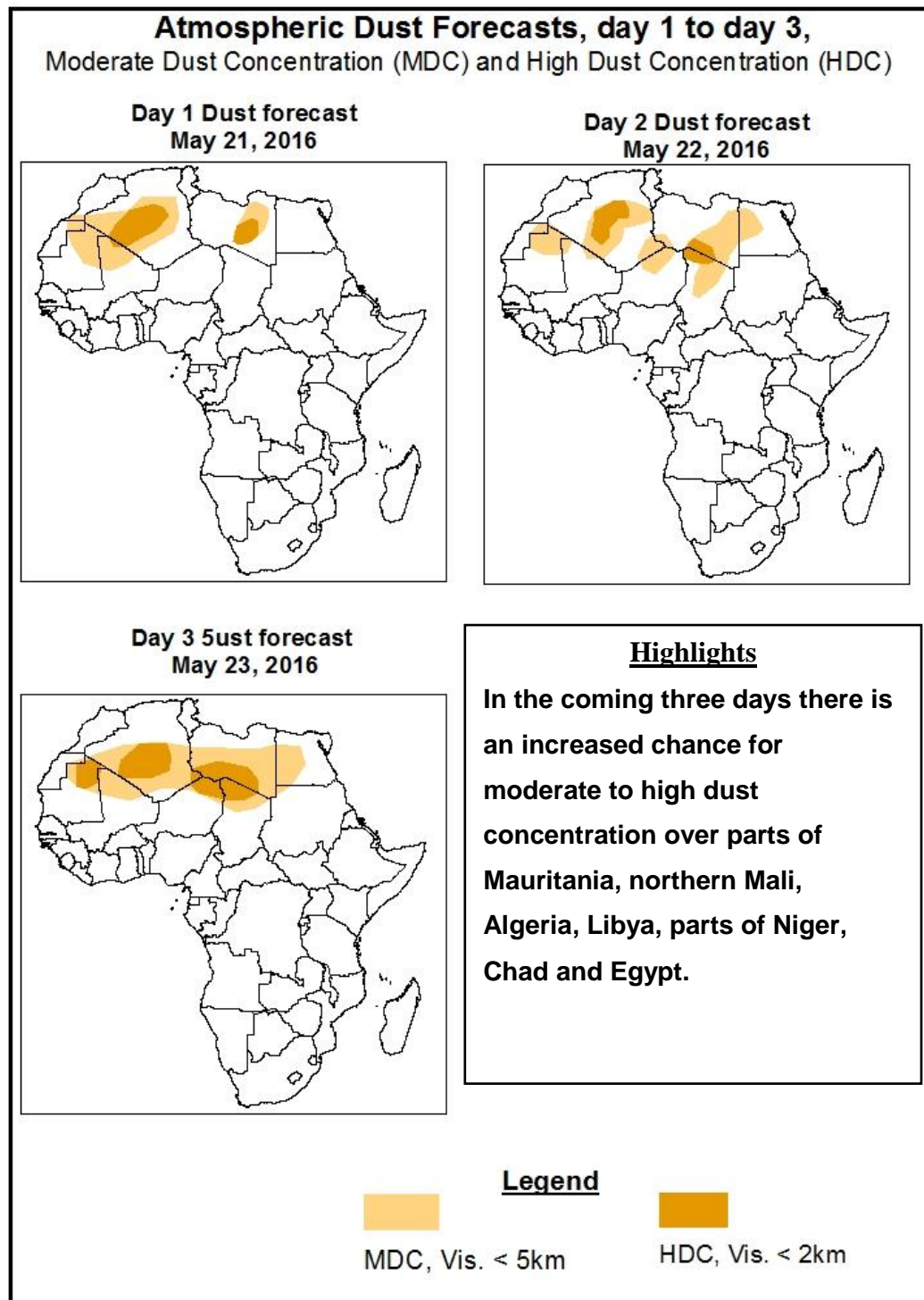


Highlights

In the coming five days, monsoon flow from the Atlantic Ocean with its associated lower level convergence and westward propagating convective systems are expected to enhance rainfall across portions of West Africa and Central Sahel. Local wind convergences across western Ethiopia, and active meridional wind convergences near the Lake Victoria region are expected to enhance rainfall in their respective areas. Therefore, there is an increased chance for two or more days of moderate to heavy rainfall over parts of Guinea, Sierra Leone, Liberia, southern Cote d'Ivoire, southern Ghana, Togo, Benin, Nigeria, Cameroon, Equatorial Guinea, Gabon, CAR, portions of DRC, and western Ethiopia.

1.2. Atmospheric Dust Concentration Forecasts (valid: May 21 – May 23, 2016)

The forecasts are expressed in terms of high probability of dust concentration, based on the Navy Aerosol Analysis and Prediction System, NCEP/GFS lower-level wind forecasts and expert assessment.



1.3. Model Discussion, Valid: May 21 – May 25, 2016

The Azores high pressure system over the Northeast Atlantic Ocean is expected to intensify gradually with its central pressure value increasing from about 1024hPa to 1030hPa during the forecast period.

The St. Helena High pressure system over the Southeast Atlantic Ocean is expected to intensify while shifting eastwards; with its central pressure value is expected to increase from 1027hPa to 1031hPa during the forecast hours.

The Mascarene high pressure system over the Southwest Indian Ocean is expected to weaken slightly, with its central pressure value decreasing from about 1032hPa to 1032hPa during the forecast period.

Central pressure values associated with heat lows across the Sahel and Sudan are expected to remain in the range between 1007hpa to 1010hpa during the forecast period.

At 925HPa level, strong dry northeasterly to easterly flow (>20kts) is expected to prevail across Mauritania, Mali, Algeria, Libya, Chad, Egypt and northern Sudan. On the other hand, moist southwesterly monsoon flow is expected to prevail across the Gulf Guinea countries during the forecast period.

At 850hPa level, a cyclonic circulation is expected to propagate westwards between western Chad and northern Mali, while weakening gradually during the forecast period. A broad area of southeasterly flow is expected to prevail across eastern and central Africa. Meridional wind convergence near the Lake Victoria region is also expected to maintain seasonal rainfall in the region.

At 700hPa level, easterly flow is expected to prevail across central and eastern Gulf of Guinea and central Sahel region, with a feeble trough in the easterlies propagating southwestwards between Nigeria and Guinea during the forecast period.

In the coming five days, monsoon flow from the Atlantic Ocean with its associated lower level convergence and westward propagating convective systems are expected to enhance rainfall across portions of West Africa and Central Sahel. Local wind convergences across western Ethiopia and active meridional wind convergences near the Lake Victoria region are expected to enhance rainfall in their respective areas. Therefore, there is an increased chance for two or more days of moderate to heavy rainfall over parts of Guinea, Sierra Leone, Liberia, southern Cote d'Ivoire, southern Ghana, Togo, Benin, Nigeria, Cameroon, Equatorial Guinea, Gabon, CAR, portions of DRC, and western Ethiopia.

There is also an increased chance for maximum heat index values to exceed 40°C over portions of Burkina Faso, northern Ghana, Togo, Nigeria, Niger, Chad, portions of eastern and southern Sudan, and northern South Sudan Republic.

2.0. Previous and Current Day Weather over Africa

2.1. *Weather assessment for the previous day* (May 19, 2016)

Moderate to locally heavy rainfall was observed over many places in the Gulf of Guinea region, Southern Mali, Central Niger, CAR, northern DRC, South Sudan, western Ethiopia, northern Uganda and western Kenya.

2.2. *Weather assessment for the current day* (May 20, 2016)

Intense convective clouds are observed across local areas of Gulf of Guinea, eastern CAR, northern DRC, South Sudan, Western Ethiopia and the Lake Victoria region.

